

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/649,591  
Source: 1FW/6  
Date Processed by STIC: 5/27/05

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 05/27/2005

PATENT APPLICATION: US/10/649,591

TIME: 08:48:37

Input Set : A:\CWRU-P03-003.TXT

Output Set: N:\CRF4\05272005\J649591.raw

4 <110> APPLICANT: Markowitz, Sanford D.  
 6 <120> TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR  
 7 CATEGORIZING PATIENTS  
 9 <130> FILE REFERENCE: CWRU-P03-003  
 11 <140> CURRENT APPLICATION NUMBER: US 10/649,591  
 12 <141> CURRENT FILING DATE: 2003-08-26  
 14 <150> PRIOR APPLICATION NUMBER: US 10/229,345  
 15 <151> PRIOR FILING DATE: 2002-08-26  
 17 <150> PRIOR APPLICATION NUMBER: US 10/274,177  
 18 <151> PRIOR FILING DATE: 2002-10-18  
 20 <160> NUMBER OF SEQ ID NOS: 22  
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 1331  
 26 <212> TYPE: PRT  
 27 <213> ORGANISM: Homo sapiens  
 29 <400> SEQUENCE: 1  
 30 Thr Val Ala Ala Gly Cys Pro Asp Gln Ser Pro Glu Leu Gln Pro Trp  
 31 1 5 10 15  
 32 Asn Pro Gly His Asp Gln Asp His His Val His Ile Gly Gln Gly Lys  
 33 20 25 30  
 34 Thr Leu Leu Leu Thr Ser Ser Ala Thr Val Tyr Ser Ile His Ile Ser  
 35 35 40 45  
 36 Glu Gly Gly Lys Leu Val Ile Lys Asp His Asp Glu Pro Ile Val Leu  
 37 50 55 60  
 38 Arg Thr Arg His Ile Leu Ile Asp Asn Gly Gly Glu Leu His Ala Gly  
 39 65 70 75 80  
 40 Ser Ala Leu Cys Pro Phe Gln Gly Asn Phe Thr Ile Ile Leu Tyr Gly  
 41 85 90 95  
 42 Arg Ala Asp Glu Gly Ile Gln Pro Asp Pro Tyr Tyr Gly Leu Lys Tyr  
 43 100 105 110  
 44 Ile Gly Val Gly Lys Gly Gly Ala Leu Glu Leu His Gly Gln Lys Lys  
 45 115 120 125  
 46 Leu Ser Trp Thr Phe Leu Asn Lys Thr Leu His Pro Gly Gly Met Ala  
 47 130 135 140  
 48 Glu Gly Gly Tyr Phe Phe Glu Arg Ser Trp Gly His Arg Gly Val Ile  
 49 145 150 155 160  
 50 Val His Val Ile Asp Pro Lys Ser Gly Thr Val Ile His Ser Asp Arg  
 51 165 170 175  
 52 Phe Asp Thr Tyr Arg Ser Lys Lys Glu Ser Glu Arg Leu Val Gln Tyr  
 53 180 185 190  
 54 Leu Asn Ala Val Pro Asp Gly Arg Ile Leu Ser Val Ala Val Asn Asp  
 55 195 200 205

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56 Glu Gly Ser Arg Asn Leu Asp Asp Met Ala Arg Lys Ala Met Thr Lys
57      210      215      220
58 Leu Gly Ser Lys His Phe Leu His Leu Gly Phe Arg His Pro Trp Ser
59 225      230      235      240
60 Phe Leu Thr Val Lys Gly Asn Pro Ser Ser Ser Val Glu Asp His Ile
61      245      250      255
62 Glu Tyr His Gly His Arg Gly Ser Ala Ala Ala Arg Val Phe Lys Leu
63      260      265      270
64 Phe Gln Thr Glu His Gly Glu Tyr Phe Asn Val Ser Leu Ser Ser Glu
65      275      280      285
66 Trp Val Gln Asp Val Glu Trp Thr Glu Trp Phe Asp His Asp Lys Val
67      290      295      300
68 Ser Gln Thr Lys Gly Gly Glu Lys Ile Ser Asp Leu Trp Lys Ala His
69 305      310      315      320
70 Pro Gly Lys Ile Cys Asn Arg Pro Ile Asp Ile Gln Ala Thr Thr Met
71      325      330      335
72 Asp Gly Val Asn Leu Ser Thr Glu Val Val Tyr Lys Lys Gly Gln Asp
73      340      345      350
74 Tyr Arg Phe Ala Cys Tyr Asp Arg Gly Arg Ala Cys Arg Ser Tyr Arg
75      355      360      365
76 Val Arg Phe Leu Cys Gly Lys Pro Val Arg Pro Lys Leu Thr Val Thr
77      370      375      380
78 Ile Asp Thr Asn Val Asn Ser Thr Ile Leu Asn Leu Glu Asp Asn Val
79 385      390      395      400
80 Gln Ser Trp Lys Pro Gly Asp Thr Leu Val Ile Ala Ser Thr Asp Tyr
81      405      410      415
82 Ser Met Tyr Gln Ala Glu Glu Phe Gln Val Leu Pro Cys Arg Ser Cys
83      420      425      430
84 Ala Pro Asn Gln Val Lys Val Ala Gly Lys Pro Met Tyr Leu His Ile
85      435      440      445
86 Gly Glu Glu Ile Asp Gly Val Asp Met Arg Ala Glu Val Gly Leu Leu
87      450      455      460
88 Ser Arg Asn Ile Ile Val Met Gly Glu Met Glu Asp Lys Cys Tyr Pro
89 465      470      475      480
90 Tyr Arg Asn His Ile Cys Asn Phe Phe Asp Phe Asp Thr Phe Gly Gly
91      485      490      495
92 His Ile Lys Phe Ala Leu Gly Phe Lys Ala Ala His Leu Glu Gly Thr
93      500      505      510
94 Glu Leu Lys His Met Gly Gln Gln Leu Val Gly Gln Tyr Pro Ile His
95      515      520      525
96 Phe His Leu Ala Gly Asp Val Asp Glu Arg Gly Gly Tyr Asp Pro Pro
97      530      535      540
98 Thr Tyr Ile Arg Asp Leu Ser Ile His His Thr Phe Ser Arg Cys Val
99 545      550      555      560
100 Thr Val His Gly Ser Asn Gly Leu Leu Ile Lys Asp Val Val Gly Tyr
101      565      570      575
102 Asn Ser Leu Gly His Cys Phe Phe Thr Glu Asp Gly Pro Glu Glu Arg
103      580      585      590
104 Asn Thr Phe Asp His Cys Leu Gly Leu Leu Val Lys Ser Gly Thr Leu

```

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105		595		600		605													
106	Leu	Pro	Ser	Asp	Arg	Asp	Ser	Lys	Met	Cys	Lys	Met	Ile	Thr	Glu	Asp			
107		610					615				620								
108	Ser	Tyr	Pro	Gly	Tyr	Ile	Pro	Lys	Pro	Arg	Gln	Asp	Cys	Asn	Ala	Val			
109	625					630					635					640			
110	Ser	Thr	Phe	Trp	Met	Ala	Asn	Pro	Asn	Asn	Asn	Leu	Ile	Asn	Cys	Ala			
111					645					650					655				
112	Ala	Ala	Gly	Ser	Glu	Glu	Thr	Gly	Phe	Trp	Phe	Ile	Phe	His	His	Val			
113				660					665					670					
114	Pro	Thr	Gly	Pro	Ser	Val	Gly	Met	Tyr	Ser	Pro	Gly	Tyr	Ser	Glu	His			
115			675					680					685						
116	Ile	Pro	Leu	Gly	Lys	Phe	Tyr	Asn	Asn	Arg	Ala	His	Ser	Asn	Tyr	Arg			
117		690					695					700							
118	Ala	Gly	Met	Ile	Ile	Asp	Asn	Gly	Val	Lys	Thr	Thr	Glu	Ala	Ser	Ala			
119	705					710					715					720			
120	Lys	Asp	Lys	Arg	Pro	Phe	Leu	Ser	Ile	Ile	Ser	Ala	Arg	Tyr	Ser	Pro			
121					725					730					735				
122	His	Gln	Asp	Ala	Asp	Pro	Leu	Lys	Pro	Arg	Glu	Pro	Ala	Ile	Ile	Arg			
123				740					745					750					
124	His	Phe	Ile	Ala	Tyr	Lys	Asn	Gln	Asp	His	Gly	Ala	Trp	Leu	Arg	Gly			
125			755					760					765						
126	Gly	Asp	Val	Trp	Leu	Asp	Ser	Cys	Arg	Phe	Ala	Asp	Asn	Gly	Ile	Gly			
127		770					775					780							
128	Leu	Thr	Leu	Ala	Ser	Gly	Thr	Phe	Pro	Tyr	Asp	Asp	Gly	Ser	Lys				
129	785					790					795				800				
130	Gln	Glu	Ile	Lys	Asn	Ser	Leu	Phe	Val	Gly	Glu	Ser	Gly	Asn	Val	Gly			
131				805					810					815					
132	Thr	Glu	Met	Met	Asp	Asn	Arg	Ile	Trp	Gly	Pro	Gly	Gly	Leu	Asp	His			
133			820						825					830					
134	Ser	Gly	Arg	Thr	Leu	Pro	Ile	Gly	Gln	Asn	Phe	Pro	Ile	Arg	Gly	Ile			
135			835					840					845						
136	Gln	Leu	Tyr	Asp	Gly	Pro	Ile	Asn	Ile	Gln	Asn	Cys	Thr	Phe	Arg	Lys			
137		850					855					860							
138	Phe	Val	Ala	Leu	Glu	Gly	Arg	His	Thr	Ser	Ala	Leu	Ala	Phe	Arg	Leu			
139	865					870					875				880				
140	Asn	Asn	Ala	Trp	Gln	Ser	Cys	Pro	His	Asn	Asn	Val	Thr	Gly	Ile	Ala			
141				885					890					895					
142	Phe	Glu	Asp	Val	Pro	Ile	Thr	Ser	Arg	Val	Phe	Phe	Gly	Glu	Pro	Gly			
143			900						905					910					
144	Pro	Trp	Phe	Asn	Gln	Leu	Asp	Met	Asp	Gly	Asp	Lys	Thr	Ser	Val	Phe			
145			915					920						925					
146	His	Asp	Val	Asp	Gly	Ser	Val	Ser	Glu	Tyr	Pro	Gly	Ser	Tyr	Leu	Thr			
147		930					935						940						
148	Lys	Asn	Asp	Asn	Trp	Leu	Val	Arg	His	Pro	Asp	Cys	Ile	Asn	Val	Pro			
149	945					950					955				960				
150	Asp	Trp	Arg	Gly	Ala	Ile	Cys	Ser	Gly	Cys	Tyr	Ala	Gln	Met	Tyr	Ile			
151				965					970					975					
152	Gln	Ala	Tyr	Lys	Thr	Ser	Asn	Leu	Arg	Met	Lys	Ile	Ile	Lys	Asn	Asp			
153				980					985					990					

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154 Phe Pro Ser His Pro Leu Tyr Leu Glu Gly Ala Leu Thr Arg Ser Thr
155          995          1000          1005
156 His Tyr Gln Gln Tyr Gln Pro Val Val Thr Leu Gln Lys Gly Tyr Thr
157      1010          1015          1020
158 Ile His Trp Asp Gln Thr Ala Pro Ala Glu Leu Ala Ile Trp Leu Ile
159 1025          1030          1035          1040
160 Asn Phe Asn Lys Gly Asp Trp Ile Arg Val Gly Leu Cys Tyr Pro Arg
161          1045          1050          1055
162 Gly Thr Thr Phe Ser Ile Leu Ser Asp Val His Asn Arg Leu Leu Lys
163          1060          1065          1070
164 Gln Thr Ser Lys Thr Gly Val Phe Val Arg Thr Leu Gln Met Asp Lys
165          1075          1080          1085
166 Val Glu Gln Ser Tyr Pro Gly Arg Ser His Tyr Tyr Trp Asp Glu Asp
167      1090          1095          1100
168 Ser Gly Leu Leu Phe Leu Lys Leu Lys Ala Gln Asn Glu Arg Glu Lys
169 1105          1110          1115          1120
170 Phe Ala Phe Cys Ser Met Lys Gly Cys Glu Arg Ile Lys Ile Lys Ala
171          1125          1130          1135
172 Leu Ile Pro Lys Asn Ala Gly Val Ser Asp Cys Thr Ala Thr Ala Tyr
173          1140          1145          1150
174 Pro Lys Phe Thr Glu Arg Ala Val Val Asp Val Pro Met Pro Lys Lys
175          1155          1160          1165
176 Leu Phe Gly Ser Gln Leu Lys Thr Lys Asp His Phe Leu Glu Val Lys
177      1170          1175          1180
178 Met Glu Ser Ser Lys Gln His Phe Phe His Leu Trp Asn Asp Phe Ala
179 1185          1190          1195          1200
180 Tyr Ile Glu Val Asp Gly Lys Lys Tyr Pro Ser Ser Glu Asp Gly Ile
181          1205          1210          1215
182 Gln Val Val Val Ile Asp Gly Asn Gln Gly Arg Val Val Ser His Thr
183          1220          1225          1230
184 Ser Phe Arg Asn Ser Ile Leu Gln Gly Ile Pro Trp Gln Leu Phe Asn
185          1235          1240          1245
186 Tyr Val Ala Thr Ile Pro Asp Asn Ser Ile Val Leu Met Ala Ser Lys
187      1250          1255          1260
188 Gly Arg Tyr Val Ser Arg Gly Pro Trp Thr Arg Val Leu Glu Lys Leu
189 1265          1270          1275          1280
190 Gly Ala Asp Arg Gly Leu Lys Leu Lys Glu Gln Met Ala Phe Val Gly
191          1285          1290          1295
192 Phe Lys Gly Ser Phe Arg Pro Ile Trp Val Thr Leu Asp Thr Glu Asp
193          1300          1305          1310
194 His Lys Ala Lys Ile Phe Gln Val Val Pro Ile Pro Val Val Lys Lys
195          1315          1320          1325
196 Lys Lys Leu
197      1330
200 <210> SEQ ID NO: 2
201 <211> LENGTH: 1328
202 <212> TYPE: PRT
203 <213> ORGANISM: Homo sapiens
205 <400> SEQUENCE: 2

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```

206 Ala Gly Cys Pro Asp Gln Ser Pro Glu Leu Gln Pro Trp Asn Pro Gly
207 1 5 10 15
208 His Asp Gln Asp His His Val His Ile Gly Gln Gly Lys Thr Leu Leu
209 20 25 30
210 Leu Thr Ser Ser Ala Thr Val Tyr Ser Ile His Ile Ser Glu Gly Gly
211 35 40 45
212 Lys Leu Val Ile Lys Asp His Asp Glu Pro Ile Val Leu Arg Thr Arg
213 50 55 60
214 His Ile Leu Ile Asp Asn Gly Gly Glu Leu His Ala Gly Ser Ala Leu
215 65 70 75 80
216 Cys Pro Phe Gln Gly Asn Phe Thr Ile Ile Leu Tyr Gly Arg Ala Asp
217 85 90 95
218 Glu Gly Ile Gln Pro Asp Pro Tyr Tyr Gly Leu Lys Tyr Ile Gly Val
219 100 105 110
220 Gly Lys Gly Gly Ala Leu Glu Leu His Gly Gln Lys Lys Leu Ser Trp
221 115 120 125
222 Thr Phe Leu Asn Lys Thr Leu His Pro Gly Gly Met Ala Glu Gly Gly
223 130 135 140
224 Tyr Phe Phe Glu Arg Ser Trp Gly His Arg Gly Val Ile Val His Val
225 145 150 155 160
226 Ile Asp Pro Lys Ser Gly Thr Val Ile His Ser Asp Arg Phe Asp Thr
227 165 170 175
228 Tyr Arg Ser Lys Lys Glu Ser Glu Arg Leu Val Gln Tyr Leu Asn Ala
229 180 185 190
230 Val Pro Asp Gly Arg Ile Leu Ser Val Ala Val Asn Asp Glu Gly Ser
231 195 200 205
232 Arg Asn Leu Asp Asp Met Ala Arg Lys Ala Met Thr Lys Leu Gly Ser
233 210 215 220
234 Lys His Phe Leu His Leu Gly Phe Arg His Pro Trp Ser Phe Leu Thr
235 225 230 235 240
236 Val Lys Gly Asn Pro Ser Ser Ser Val Glu Asp His Ile Glu Tyr His
237 245 250 255
238 Gly His Arg Gly Ser Ala Ala Ala Arg Val Phe Lys Leu Phe Gln Thr
239 260 265 270
240 Glu His Gly Glu Tyr Phe Asn Val Ser Leu Ser Ser Glu Trp Val Gln
241 275 280 285
242 Asp Val Glu Trp Thr Glu Trp Phe Asp His Asp Lys Val Ser Gln Thr
243 290 295 300
244 Lys Gly Gly Glu Lys Ile Ser Asp Leu Trp Lys Ala His Pro Gly Lys
245 305 310 315 320
246 Ile Cys Asn Arg Pro Ile Asp Ile Gln Ala Thr Thr Met Asp Gly Val
247 325 330 335
248 Asn Leu Ser Thr Glu Val Val Tyr Lys Lys Gly Gln Asp Tyr Arg Phe
249 340 345 350
250 Ala Cys Tyr Asp Arg Gly Arg Ala Cys Arg Ser Tyr Arg Val Arg Phe
251 355 360 365
252 Leu Cys Gly Lys Pro Val Arg Pro Lys Leu Thr Val Thr Ile Asp Thr
253 370 375 380
254 Asn Val Asn Ser Thr Ile Leu Asn Leu Glu Asp Asn Val Gln Ser Trp

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/649,591

DATE: 05/27/2005  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:9; N Pos. 1161

**VERIFICATION SUMMARY**

DATE: 05/27/2005

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Input Set : A:\CWRU-P03-003.TXT

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L:780 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:1140